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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,767	03/27/2001	Nikhil S. Nadgauda	CR00185M	2401

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EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 08/09/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,767

Applicant(s)

NADGAUDA ET AL.

Examiner

Phuong Phu

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-35 and 38 is/are allowed.
- 6) ☒ Claim(s) 1,2,6-13,15-22,36 and 37 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6, 7, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Parameters in mathematical expressions, claimed in the claims, are not defined.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 8-13 and 15-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomas et al (6,141,393).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per claim 1, see figures 1-4 and 7, and col. 6, line 26 to col. 11, line 63, Thomas et al discloses a method (see figure 2) comprising;

step (201) of receiving by a first receiver (RECEIVING UNIT), a first received signal comprising a first signal transmitted from user device (120) (see figure 1) and a second signal transmitted from user device (130) (see figure 1);

step (201) of receiving by a second receiver, a second received signal comprising the first signal and the second signal;

step (304) (see figure 3) of determining one branch weight ($w_1^*(k)$) associated with the first receiver and one branch weight ($w_2^*(k)$) associated with the second receiver;

step (306) (see figure 3) of combining the one branch weight associated with the first receiver, one branch weight associated with the second receiver, the first received signal, and the second received signal, forming a combined signal ($s(k)$) (204);

step (306, 206) (see figures 2 and 3) of determining channel state derived output information (213) for the combined signal; and

step (306, 206) of outputting or restoring the channel state derived output information of the combined signal.

Art Unit: 2631

As per claim 2, Thomas et al discloses step (302) of applying the one branch weight associated with the first receiver to the first received signal, forming a first weight branch signal; step (302) of applying the one branch weight associated with the second receiver to the second received signal, forming a second weight branch signal; and step (306) of combining the first weight branch signal with the second weight branch signal to form the combined signal (see figure 3).

As per claim 8, Thomas et al discloses that the combined signal (204) and the channel state derived output information (213) are outputted as separate quantities (see figure 2).

As per claim 9, Thomas et al discloses that the first receiver and the second receiver are branch receivers (201) (see figure 2).

As per claim 10, Thomas et al discloses that the first signal is transmitted by a first transmitter (120) and the second signal transmitted by a second transmitter (130) (see figure 1).

As per claim 11, Thomas et al discloses step (500) of determining one channel response for the first signal and one channel response for the second signal (see figures 5 and 8, and col. 8, lines 1-25 and col. 14, line 66 to col.15, line 22).

As per claim 12, Thomas et al discloses that the channel responses comprises channel gains ($h_{i,m}(l)$) (see col. 11, lines 40-50).

As per claim 13, Thomas et al discloses that the channel response comprises multiple complex gain at various times (l) (see col. 11, lines 40-50).

As per claim 15, Thomas et al discloses step (530) of identifying a predetermined sequence (PILOT SEQUENCE) within the first signal (see figure 5).

As per claim 16, Thomas et al discloses that the predetermined sequence comprises a pilot code (PILOT SEQUENCE) (see figure 5).

As per claim 17, Thomas et al discloses step (530) of identifying a predetermined sequence (PILOT SEQUENCE) within the second signal (see figure 5).

As per claim 18, Thomas et al discloses that the predetermined sequence comprises a pilot code (PILOT SEQUENCE) (see figure 5).

As per claim 19, Thomas et al discloses step (208) of utilizing pilot code from the first signal and/or the second signal to determine the one branch weight associated with the first receiver and the one branch weight associated with the second receiver (see figures 2, 3, 5 and 7, and col. 16, lines 1-10).

As per claims 20 and 21, Thomas et al discloses that the first and second signals are signals (see figure 2).

As per claim 22, Thomas et al discloses that the method is implemented with a program code within a programmable medium (MICROPROCESSOR (540)) (see figure 5).

Allowable Subject Matter

5. Claims 23-35 and 38 are allowed.
6. Claims 3-5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 6, 7, 36 and 37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2631

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu

Phuong Phu
05/17/04

Phuong Phu
Primary Examiner
Art Unit 2631

PHUONG PHU
PRIMARY EXAMINER